

smaller than 50%, 40%, 30%, 20%, 10% or 5% of the minimum size of well-defined structure that can be formed by the low resolution means. The low resolution means may be a lithographic means that can form well-defined structures down to a minimum dimension of 100, 70, 50, 40 or 30 μm . The
5 high resolution means may be a photo-etching means that can form well-defined structures down to a minimum dimension of 20 or 10 μm or less, and preferably down to a few μm across or less. As one example, cathode and gate tracks 100 μm across are formed by lithography means, and emitter cells 8 μm across are formed by photo-etching means.

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For a better understanding of the invention, and to show how embodiments of the same may be carried into effect, reference will now be made, by way of example, to the accompanying diagrammatic drawings, in which:

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Figure 1a shows four pixels of an addressable array as would be used in a large area monochrome field emission display;

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Figure 1b shows an idealised emitter cell structure;

Figure 1c illustrates the problems of realising such a structure using thick film fabrication techniques;

Figure 1d shows how a near-ideal emitter cell structure may be
25 fabricated using liquid bright gold and a glaze;

Figure 1e shows how the structure in Figure 1d may be improved by the use of a planarising layer between an insulator and final conducting layer;

Figure 2 shows a pixel arrangement in a colour display;

Figure 3 shows etch steps in forming an emitting cell;

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Figures 4 (a) to (f) show steps in forming an addressable array using photolithography;

10 Figures 5 (a) to (d) shows steps in forming an addressable array using a mixture of printing and photolithography;

Figures 6 (a) and (b) show how focusing electrodes may be incorporated into devices;

15 Figure 7 illustrates a complete display using methods and structures described herein; and

20 Figures 8 (a) and (b) show how misalignment between emitter cell groups and phosphor patches on an anode may be accommodated by special anode structures.

Embodiments of this invention may have many applications and will be described by way of the following examples. It should be understood that the following descriptions are only illustrative of certain embodiments of the invention. Various alternatives and modifications can be devised by those skilled in the art.

In large field emitting displays the pixel dimensions are well within the capabilities of a number of low cost patterning techniques such as screen